



MANUFACTURING CORPORATION

- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

Material Data Sheet

Material: Nylatron® 703XL Polyamide (Filled Nylon)

Nylatron® 703XL is a ultra-high performance bearing grade of PA6 provides wear resistance near the levels of Nylatron NSM with superior load bearing capability and an industry first - a near zero level of "stick-slip." This elimination of chatter provides an extraordinary amount of control for high precision applications.

Mechanical Properties	Test Method ASTM	Value	Units
Specific Gravity, 73°F	D792	1.11	
Tensile Strength, 73°F	D638	9,000	psi
Tensile Modulus of Elasticity, °F	D638	400,000	psi
Tensile Elongation (at break), 73°F	D638	15	%
Flexural Strength, 73°F	D790	13,000	psi
Flexural Modulus of Elasticity, 73°F	D790	360,000	psi
Shear Strength, 73°F	D732		psi
Compressive Strength, 10% Deformation, 73°F	D695	10,000	psi
Compressive Modulus of Elasticity, 73°F	D695	360,000	psi
Hardness, Rockwell, Scale as noted, 73°F	D785	M65	
Hardness, Durometer, Shore "D" Scale, 73°F	D2240		
Izod Impact (notched), 73°F	D256 Type A	0.7	ft-lb/in of notch
Coefficient of Friction (Dry vs. Steel) Dynamic	QTM 55007	0.14	
Limiting PV (with 4:1 safety factor applied)	QTM 55007	17,000	ft.lbs./in. ² min
Wear Factor "k" x 10 ⁻¹⁰	QTM 55010	26	in. ³ -min/ft.lbs.hr
Thermal Properties			
Coefficient of Linear Thermal Expansion (-40°F to 300°F)	E-831 (TMA)	4.9 x 10 ⁻⁵	in/in./°F
Heat Deflection Temperature 264 psi	D648	200	°F
TG-Glass transition (amorphous)	D3418	N/A	°F
Melting Point (Crystalline) peak	D3418	420	°F
Continuous Service Temperature in Air (Max.) (1)		200	°F
Thermal Conductivity	F433		BTU-in/hr-ft ² -°F
Electrical Properties			
Dielectric Strength, Short Term	D149		Volts/mil
Surface Resistivity	EOS/ESD S11.11	>10 ¹²	ohm/square
Dielectric Constant, 106 Hz	D150		
Dissipation Factor, 106 Hz	D150		
Flammability @ 3.1 mm (1/8 in.)	UL 94	HB	
FDA Compliant		No	

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*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufactures, converters and other published sources. However, they should not be used for specification or design purposes. Above information is provided by Quadrant EPP.